

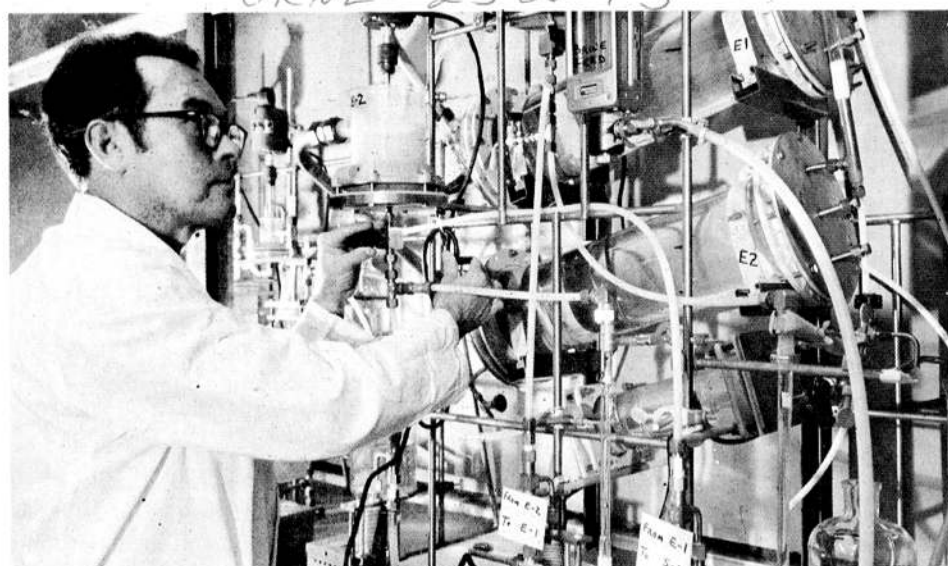


NUCLEAR DIVISION NEWS

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 4 - No. 21

November 1, 1973



"MINI PLANT" - William E. Bayless, ORNL chemical technician, makes an adjustment on a pilot-scale solvent extraction "mini plant." The device demonstrates the technology for removing mercury and other toxic metals from industrial water effluents.

Toxic metal abatement process developed by chemists at ORNL

Chemists at Oak Ridge National Laboratory have developed a simplified process for abatement of mercury, cadmium, and other toxic metals from polluting industrial water effluents.

The scientists have, for this purpose, adapted the technique of solvent extraction which has been used since the 1950's at ORNL to recover tiny quantities of man-made elements for research purposes. Solvent extraction is usually less expensive, more complete and readily adaptable to largescale operations.

Fletcher Moore of the ORNL Analytical Chemistry Division, who heads the project, said his group has already built a pilot-scale "mini-plant" capable of removing mercury and other metals from samples of actual industrial effluents. He said that a full-scale plant could be built based on existing ORNL technology.

Working with Moore have been William Groenier, Chemical Technology Division, and William Bayless, Analytical Chemistry Division.

According to Moore, the technique is highly efficient and can be used on either a batch or continuous basis. All of the metal in as much as 10,000 gallons of waste water can be extracted and concentrated into as little as one gallon of the extracting solution. The metal can be easily recovered and recycled from this concentrated solution. In laboratory tests, more than 99 percent of the mercury was removed from samples of simulated industrial wastes.

The process is primarily useful in recovering toxic metals, but it may also be useful for extracting such materials as nitrates, sulfates, phosphates, and organic materials from aqueous waste streams.

The ORNL research project is funded by the National Science Foundation and was begun little more than a year ago. Its purpose is to perform research and development studies leading to new, practical industrial separation methods for pollution abatement of mercury and other toxic metals.

Moore cites three major potential applications of the ORNL research: removal of mercury from effluents of the chlor-alkali and paper industries, removal of toxic metals from sediments and industrial sludges, and removal of toxic metals from industrial metal finishing solutions.

Interested persons in industry may obtain additional details by writing J. Paul Blakely, Oak Ridge National Laboratory, P. O. Box X, Oak Ridge, Tennessee 37830.

United Way contributions total \$329,109

The Oak Ridge Gaseous Diffusion Plant was the first to reach the 100 percent mark, and now has attained an impressive 111 percent of its goal.

Second on the totem pole is the General Staff, which had attained 106 percent of its goal as of the October 22 reporting period.

The Y-12 Plant had contributions which totaled \$121,429 or 93 percent of its goal. The Oak Ridge National Laboratory has reached 72 percent of its goal.

Contributions for all the UCCND plants in Oak Ridge now totals \$329,109 (90 percent of the \$367,000 goal).

Thanks to you it is working!

Significant improvements made in major medical insurance plan

Nuclear Division employees will benefit from significant changes in the Major Medical and Special Medical Expense Plans which, in most cases, were effective October 1, 1973.

The major change involves the maximum lifetime benefit for employees and their dependents, which is being increased from \$20,000 to \$50,000. This change was effective October 1 for an insured employee actively at work and for any insured dependent not confined for medical care or treatment either in an institution or at home. Otherwise, it takes effect as of the date the employee or dependent meets this insurance requirement.

Any eligible employee or dependent who already has exceeded the present \$20,000 maximum - or the preceding \$10,000 maximum - is entitled to the new maximum benefit upon meeting the same requirements.

A provision has been added to the Plan to allow a retired employee to continue coverage for a younger spouse until the spouse is eligible for Medicare provided the retiree continues to pay the full premium for the spouse's coverage. Previously, coverage for all family members ceased when the retired employee reached age 65. This option is available to

retirees who were insured under the Plan on October 1, 1973, and to an employee who retires after that date.

Medical and dental expenses resulting from injuries incurred in an automobile accident for which payments are made, or could have been made if applied for under any no-fault insurance law, will not be eligible for payment under the Plan. The "coordination of benefits" principle will be followed in such cases so that no more than 100 percent of total eligible expenses are paid.

Except for the Paducah salaried employees, the cost of the Plan, which is shared equally by the employee and the Company, will remain unchanged. A rate increase was necessary at Paducah for that group due to unfavorable claims experience.

At the time the NEWS is going to press, agreements concerning the changes, some of which are still subject to ratification, have been reached with all unions representing hourly employees in the Nuclear Division except for the production and maintenance and Biology units at the Oak Ridge National Laboratory.

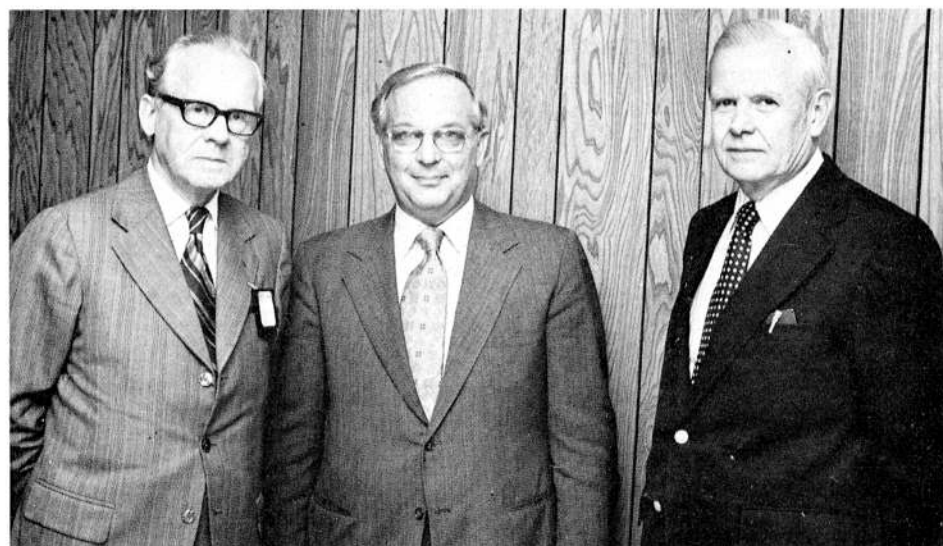
Questions concerning the changes should be addressed to your Benefit Plans Office.

ORGDP construction contract awarded to firm at Paducah

A \$358,000 construction contract has been awarded to a Paducah, Ky., firm for work at the Oak Ridge Gaseous Diffusion Plant.

Under the contract, the Crawford Construction Company will make modifications to an existing process building to accommodate larger, heavier equipment of the Cascade Improvement Program for increasing the uranium enriching capacity of the plant. The work will consist of uprating structural steel and enlarging equipment hatch openings.

The capacity of the gaseous diffusion plants is being increased to meet the growing demand for enriched uranium used as fuel in nuclear power plants in the United States and abroad.



IAEA OFFICIALS VISIT NUCLEAR DIVISION - Sigvard Eklund, director general of the International Atomic Energy Agency, and Gerald F. Tape, U. S. ambassador to IAEA and a former AEC commissioner, visited ORGDP and ORNL recently. Eklund, left, is shown with Floyd L. Culler, acting director of ORNL, and Tape.

COMPANY Service

20 25 30

ORNL 30 YEARS

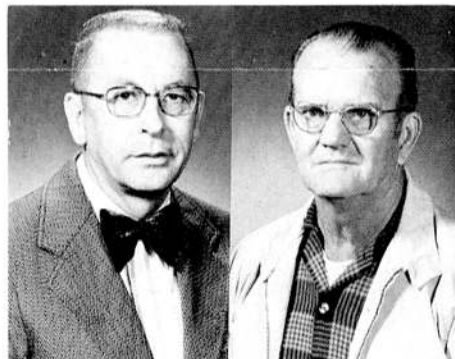


Davis

Blevins

George D. Davis is a technician in the Chemical Technology Division. A native of Tennessee, Davis enjoys refinishing and rebuilding antique furniture in his spare time. He and his wife, Lou, have three daughters and two grandsons.

William A. Blevins is assistant superintendent of the fabrication department, Plant and Equipment Division. He is originally from London, Ky. Blevins' wife, formerly Jean Redden, worked at ORNL for almost 25 years. They reside at 305 West Fernhill Road, Oak Ridge.



Dickerson

Harrison

Hermon L. Dickerson, Physics Division, is technical shift supervisor of Cyclotron operations. He is originally from Eyffe, Ala. Dickerson and Mildred, his wife, live at 140 West Arrowwood Road, Oak Ridge.

John C. Ezell works in the Thermo-nuclear Division, located in the Y-12 Plant area.

Charles A. Harrison is a power equipment operator in the Plant and Equipment Division. He enjoys working on his farm during his spare time. He and his wife, Donna, have four daughters. They live in Sweetwater.



Klemski

Holt

Henry J. Klemski is a general foreman in the fabrication department of Plant and Equipment Division. Originally from

Wilmington, Del., Klemski came to work in Oak Ridge with DuPont. He and Cecilia, his wife, have three children.

Roy C. Holt, pipefitter in the Plant and Equipment Division, is one of the few original Oak Ridgers — he was born in the Robertsville community. Holt likes all types of outdoor sports. He and his wife Lorene have one son.



Loy

Lord

John W. Loy is the building services coordinator for the Plant and Equipment Division. He and his wife Dorothy, a former ORNL employee, live at 431 W. Vanderbilt Drive, Oak Ridge. They have a daughter, Martha, who is a student at The University of Tennessee's School of Nursing.

Roy E. Lee works in the Plant and Equipment Division.

Richard S. Lord is an electronic engineer in the Physics Division. During his spare time, Lord enjoys participating in the U. S. Power Squadron's educational activities. He lives with his wife, Kathryn, at 306 E. Forest, Oak Ridge.



Tyler

Parker

George W. Parker is a staff member of the Environmental Sciences Division. Parker's experience in radionuclide separations has been useful in preparing environmental impact statements for nuclear power plants. Parker has done graduate work at UT, and lives in Concord with Joanne, his wife.

Garrett W. Tyler, Biology Division, began his working career with DuPont in Charleston, Ind. He and his wife, Lazelle, have two sons and a daughter. They reside at 7105 Stockton Drive, Knoxville.

25 YEARS

OCTOBER — Alfred R. Jones, George F. Wells, Billy C. Leslie, Jack C. Rose, Myron F. Fair, Robert B. Splittgerber and Charles A. Wallace.

NOVEMBER — David J. Knowles, Jackson B. Davidson, William H. Murrin and Donald E. Spangler.

ORGDP employee's daughter recovers from tenth operation; enters school



FAMILY PORTRAIT — The Harvey T. Houser family poses happily together recently, after Carson's return home following her tenth operation in a Denver hospital. Houser recently thanked fellow workers in the ORGDP area for contributing necessary funds for his flight to Denver to be with his daughter during the delicate operation. From left are Phillip, Beth Ann, Billie Joe, Houser, Carson and David. The Housers live in Kingston.

The 21-year-old daughter of an Oak Ridge Gaseous Diffusion Plant employee recently underwent her tenth operation. Carson Houser, who was to graduate from Middle Tennessee State University this Spring, is at home after her corrective surgery in July, to straighten her "kinked" trachea.

Miss Houser gave up one of her lungs in 1972, following a series of operations to correct a congenital defect in her lungs.

She is the daughter of Harvey T. Houser, Fabrication and Maintenance Division.

The young Kingston student was flown to Denver in May through special arrangements with American Airlines. With an unbelievable zest for life, she spent some 80 days in the hospital this summer. Her latest illness cost her a graduation and a job offer in Knoxville.

It's back to school now for that degree, and good health to Miss Houser.

Houser stated that he was able to fly to Denver back in the summer for his daughter's operation.

"It's something I would have been unable to do, except for the contributions of my fellow workers — many of whom I don't even know. It is also something I shall never forget," he said.

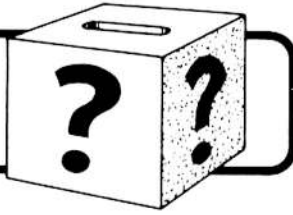


EMPLOYEES OFFSPRINGS WED — Nancy Brown and Thomas Hensley were married recently in Oak Ridge at the New York Avenue Church of Christ. The bride is the daughter of Herbert S. Brown Jr., of ORNL's Operations Division; and the bridegroom is the son of Edwin Hensley of the General Engineering Division. The couple resides in Southport, N.C.



FLAWLESS YEAR — Clyde C. Hopkins, Paducah Plant Superintendent, congratulated the plant employees for working 365 days without a single disabling injury. From left are Hopkins; Eurie W. Smith, president of the Oil, Chemical and Atomic Workers, Local 3-550; High G. Coltharp, Safety Department representative; and J. O. Dobson, president of the United Plant Guard Workers of America, Local 111.

QUESTION BOX



If you have questions on company policies, benefits, etc. or any other problems with which we might help, just let us know. Drop your inquiry to the Editor, Nuclear Division News. (Or telephone it in to your plant news representative.) You may or may not sign your name. It will not be used in the paper.

Questions are referred to the proper authorities for accurate answers. Each query is given serious consideration for publication.

Answers may be given to employees personally if they so desire.

QUESTION: Who instigated the new program for distributing safety award prizes? Most of the employees that I have talked with feel as I do, that it is unfair for only a few to benefit from something we have all helped to earn. Why weren't the employees given a choice concerning safety awards?

ANSWER: The development and purpose of the Safety Incentive Plan were discussed in the answer to a question on this subject which appeared in the May 3 issue of Nuclear Division News. If you do not have a copy, you can get one from the editor at your facility.

QUESTION: I believe we agree that the employees who party or play bridge with supervision get special privileges. (Attending the same church helps tremendously.)

What is company policy pertaining to employees being required to socialize after working hours or being penalized if they do not?

ANSWER: It is not Company policy to penalize or reward workers for social activities after working hours. It certainly is not Company policy to grant special privileges to employees who socialize with supervision.

QUESTION: How can one go about getting personal time off for a day and not have to tell his supervisor his personal business? Once you tell him or her, they tell everyone and it's not personal anymore.

ANSWER: It is Company policy that an employee may be excused from work for extenuating personal circumstances. It is the responsibility of supervision to approve or disapprove such absence and, based on this responsibility, the supervisor must have enough general information to permit him to make a sound judgment. This should be possible without the necessity of divulging sensitive information which would be embarrassing to the employee. In any event, a supervisor should handle any personal information obtained with discretion.

QUESTION: Why doesn't Carbide give cash awards for money-saving suggestions on operations like some other companies — Tennessee Eastman, etc.?

It would improve efficiency, morale, etc.

ANSWER: Suggestion systems date back to at least 1880. While many companies have such systems, a great many more do not, and many of those who have had them have discontinued them. While a suggestion system certainly offers

some benefits there are also some negative aspects. Some of the problems connected with suggestion systems are:

1. They require a great deal of time and effort in their administration.
2. They may cause personnel problems because of the high percentage of rejections and difficulty in arriving at fair and equitable awards.

3. They require continual salesmanship and sometimes pressure to maintain an inflow of suggestions after the initial impact.

4. Some employees are usually excluded from coverage.

5. Quite often they are expensive in relationship to their return.

Nuclear Division employees are encouraged to offer suggestions for improvements to their supervisors for their consideration. For the time being at least, we have determined not to adopt a formal suggestion system.

QUESTION: How does the new employee-evaluation program which was put into effect last fall work? Who fills out the forms, the employee or the supervisor? If the supervisor does, is the employee permitted to see what is written about him? Are the procedures the same for all three Oak Ridge installations?

ANSWER: The Employee Evaluation or Appraisal Program is now effective for most Nuclear Division salaried employees. It will eventually be extended to cover all salaried employees. The program involves an appraisal of present performance to be followed by a constructive discussion with the employee. The emphasis is placed on improved performance and on growth and development of the employee.

The forms are filled out by the supervisor but reflect also comments expressed by the employee. The employee is advised concerning the supervisor's evaluation of his performance and any suggestions concerning improvement, although he is not normally shown the written comments. The procedures are basically the same for the Oak Ridge installations with some minor variations based on local needs.

BUS POOL

WANTED — Employees who are interested in forming a bus pool from Northeast Knoxville, Clinton Highway area to either portal at ORNL, 8 a.m. shift. Complete details have not been worked out, but it is felt that a contract with a bus company can be negotiated if enough people are interested.

If you would like to fight air pollution and conserve energy by riding a bus to work, call Fred Baes, plant phone 3-1464, or Knoxville 687-5675.

Car pools encouraged to aid fuel shortage

Car pools — who needs them?

For many years that's been the typical reaction of people asked to double (or triple) up for transportation to and from business. However, with concern mounting about serious fuel shortages, and even the possibility of rationing, more business motorists are starting to take a second look at car pools.

According to a spot survey done by Nuclear Division News, many motorists cite two specific reasons for finding car pools unacceptable:

1. The "convenience factor" — It's just more convenient to come and go when you please.

2. The "personality factor" — Many employees find that fellow car pool members may not be the most sprightly conversationalists. Others find that their colleagues talk too much.

But there are many obvious good points to car pooling. The first, naturally, is that the use of car pools conserves energy. And energy is something which is of growing concern to all of us.

In addition, fewer cars on the road means less pollution.

Not to be overlooked is the fact that coupled with fewer motor vehicles are fewer traffic jams, and accidents.

For those concerned about economics, car pooling certainly is a lot less expensive. Many persons who have gotten accustomed to car pooling have found that the second family car, previously considered indispensable, was really not necessary.

For many years, Nuclear Division News has carried a column in which information has been listed about rides and riders wanted.

WANTED



Y-12 PLANT

JOIN CAR POOL from Olmstead Drive to East Portal, straight day. George Smith, plant phone 3-5308, home Oak Ridge 483-3127.

ORGDP

RIDE WANTED from Oak Ridge Highway, Cumberland Estate shopping center, to Portal 4, 8-4:30 shift. E. B. Hoskins, plant phone 3-9326, home Knoxville 584-5173.

RIDE from Maryville-Alcoa area, straight day. E. L. Wright, plant phone 3-3316 or Knoxville 983-2134.

ORNL

CAR POOL MEMBERS from Waddell, West Outer or Pennsylvania Avenue area, Oak Ridge, to East or North Portal, 8:15 a.m. shift. Tom Burnett, plant phone 3-6939 or Oak Ridge 483-1975; or Dick Reed, plant phone 3-1901 or Oak Ridge 483-3458.

RIDE or JOIN CAR POOL from Cumberland Estates area, Knoxville, to East Portal, straight day shift. H. J. Metz, plant phone 3-1339 or Knoxville 588-3017.

CAR POOL MEMBER from Karns area to East Portal, 8 a.m. shift. John Groover, plant phone 3-6417 or Knoxville 584-2438.

Employees are urged to utilize this column and to participate in the car pool program as part of the nationwide effort to cut down on fuel consumption.

In upcoming issues of the News, it is planned to devote increased space to ways in which persons can conserve energy, particularly in the home.



COMPANY Service

20 25 30

Y-12 PLANT

30 YEARS



Briscoe

Address

Thirteen Y-12ers cross 30-year landmarks with Union Carbide early in November.

Thomas M. Address, a native of Birmingham, Ala., received his B. S. degree from Birmingham Southern College. He is in the Engineering Division, and lives at 106 Venus Rd., Oak Ridge.

Otto W. Briscoe, a department head in Product Certification, is a graduate of Emory University. A native of Covington, Ga., Briscoe lives at 405 Highland Drive, Clinton.



Hicks

Billy D. Hicks of the plant protection department, lives at 524 Riverside Drive, Clinton. He is a native Clintonian.

Jack D. McLendon is a native of Birmingham, Ala., and received his B. S. degree from Howard College there. He is head of the radiation safety and industrial hygiene department, Technical Division. He lives at 104 Baylor Drive, Oak Ridge.

Paul B. Petretzky, of Product Certification, received his B.S. and M.S. degrees from Western Reserve University. He is a native of Perryopolis, Pa., and now lives at 140 Georgia Ave., Oak Ridge.



McLendon

Petretzky



Pride

Riddle

Thomas P. Pride, a native of Windrock, Tenn., lives at Route 2, Clinton. He is in Metal Preparation.

U. G. Riddle, a native of Knoxville, is in the Maintenance Division. He lives at 112 Tucker Rd., Oak Ridge.



Simcox

Mrs. Rollins

Mona B. Rollins is in the Product Certification Division. She is a native of Oak Dale, Tenn., and presently lives at 923 Medaris St., Clinton.

Clifford M. Simcox, of Route 5, Pansy Hill, Harriman, is in the Maintenance Division. He is a native of Davidson, Tenn.



Miss Stott

Welchel

Edith A. Stott, also in the Maintenance Division, is a native of Knoxville. She lives there now at 4140 Holston Drive.

Wilburn W. Welchel, Metal Preparation Division, lives at Route 1, Ridgeview Drive, Knoxville. He is a native Knoxvillean.



West

Wilkinson

Charles M. "Hap" West of the radiation safety department, Technical Division, is a native of Altoona, Ala., and received his B.S. degree at Birmingham Southern College. He lives at 111 Washburn Circle, Oak Ridge.

Paul E. Wilkinson, Product Engineering and Scheduling Division, is a native of Montclair, N. J. He received his B.A. degree at Williams College, Williamstown, Mass. He lives at 1001 West Outer Drive, Oak Ridge.

25 YEARS

Ray L. Sampsel.

GENERAL STAFF

25 YEARS

Mary H. Pickell.

ORNL's Allen, AIPE president

A. Larry Allen, an area manager in the Plant and Equipment Division at ORNL, recently was elected president of the Knoxville Area Chapter of the American Institute of Plant Engineers.

Allen began working with Union Carbide in 1944 in the Linde Division, New York. He worked at ORGDP for 15 years prior to joining the ORNL staff in 1962. He holds a bachelor's degree in chemical engineering from the South Dakota School of Mines and Technology.

Allen is married to the former Lavada Howe, and they have three sons. The Allens reside at Twin Coves, Lenoir City.

Other officers for 1973-74 include John F. Miller Jr., Knoxville, vice president; Harry E. Seagren, ORNL, secretary; John L. Reagan, ORGDP, treasurer; and Harold F. Keese, ORNL, national representative.

Local chapter members represent a variety of industries and operations in East Tennessee.



A. Larry Allen

Nuclear Division Deaths

Russell D. Baybarz, research staff member in the Chemical Technology Division at ORNL, died October 15 at a Knoxville hospital.

Mr. Baybarz had been employed at ORNL for over 18 years. He was recently the recipient of an Alexander von Humboldt award, which included doing research for a year at Euratom in Karlsruhe, West Germany. This honor is given by the West German government to outstanding senior scientists in the United States.

Mr. Baybarz is survived by his wife, Mrs. Barbara McNelly Baybarz; a son, Jeffrey; and a brother, Reuben Baybarz of Washington, D.C. The Baybarz home is at 7312 Lancelot Lane, Powell.

Funeral services were held October 17 in the chapel of Weaver's Funeral Home, with Elder Russell Johnson, pastor of the First Seventh Day Adventist Church, officiating. Interment followed in Greenwood Cemetery, Knoxville.

Charles R. Kasperek, an engineer in the Engineering Division, Y-12 Plant, died October 15 at the University Hospital in Knoxville.

A native of St. Louis, Mo., Mr. Kasperek came to Oak Ridge in 1944 to work for Tennessee Eastman, and transferred to Union Carbide when it took over the operation of the Y-12 Plant.

Mr. Kasperek is survived by his wife, Mrs. Catherine Kasperek, 111 Delmar Circle, Oak Ridge; two daughters, Victoria Kasperek and Mrs. E. L. Moore, Hurst, Tex.; one sister; three brothers; and three grandchildren.

Funeral services were held October 17 at St. Mary's Catholic Church with the Rev. James Bowling officiating. Burial was in Anderson Memorial Gardens.

James P. Watts, a Y-12 employee, died at the Oak Ridge Hospital October 22. He was a Fire and Guard Captain in the plant protection department.

Mr. Watts, who worked at ORNL before transferring to the Y-12 Plant in 1967, had been with Union Carbide for 29 years.

He is survived by his wife, Mrs. Hula Viars Watts, Loudon; a daughter, Jean Watts, and son, James D. Watts, both of Chattanooga; two sisters; a brother; and one granddaughter.

Services were held October 24 at Karnes Chapel, with the Rev. O. C. Rainwater officiating. Interment was in Loudon County Memorial Gardens.

RETIRED EMPLOYEE DIES

Osceola G. Stone, who recently retired from the budget department at ORNL, died in Kentucky on October 12. Mr. Stone had worked as a plant programmer and equipment coordinator at ORNL for over 25 years. The Stone home is at 430 East Drive, Oak Ridge.

Funeral services were held October 14.

George W. Simonds, a welder in Metal Preparation, Y-12, died recently in Copper Hill, Tenn.

Mr. Simonds, a native of Murphy, N.C., had been with Union Carbide for the past 21 years.

He is survived by his wife, Mrs. Frances Simonds, 303 Broad St., Clinton; three sons, Tyrone, Jerome and Zane Simonds; two daughters, Mrs. Shelia Russell and Mrs. Yulanda Ammonds; father, Oscar Simonds; one brother; and three sisters.

Services were held in McCaysville, Ga., at the Finch Funeral Home Chapel. Burial was in Blue Ridge Georgia Memorial Gardens.

Temperature - sensitive fish tag developed in environment studies

Environmental scientists at Oak Ridge National Laboratory have developed a highly sophisticated, temperature-sensitive, ultrasonic fish tag. The implantable tag, which is really an electronic thermometer, has proved to be an invaluable aid to scientists studying temperature preferences of important fish species.

The temperature-sensing tag has a thermistor-type thermometer which is located at the end of a flexible appendage. The thermistor can be surgically implanted with the transmitter to measure fish body temperature, or brought outside the fish to measure water temperature.

Hydrophone system

The tag transmits the temperature signal by acoustic energy (sound) at frequencies between 65 and 120 kilocycles. The signal is received on shore or in a boat by use of a hydrophone system. One type of hydrophone is directional and locates the fish as well as receives the temperature information.

The scientists involved in the development of the fish tag are James M. Rochelle, Instrumentation and Controls Division, and Charles C. Coutant, supervisor of the Thermal Effects Project in the Environmental Sciences Division. Other staff members and students at ORNL have assisted with testing and actual research studies with the tags.

Seek warm water

The fish tag has proved useful for laboratory studies to determine the rates of change of internal fish body temperatures following water temperature changes.

Most studies to date show that largemouth bass have definite temperature preferences. They seek the warmest water they can find (usually at the surface in spring and early summer) until the water temperature exceeds about 79°F. Then they seek deeper, cooler waters between 75 and 80°F. These temperatures correspond closely with the optimum temperatures for growth in laboratory studies.

The electronics include an integrated circuit which allows for considerable sophistication in a small space and aids in reducing assembly cost. Temperature information is coded into pulses of varying

rapidity by a vibrator which is compensated for changes in battery voltage during the life of the tag.

Used on small fish

The entire assembly of electronics, transmitting crystal and batteries is covered with silicone rubber to ensure biological compatibility. When equipped with a two-cell battery, the useful life is four months and the effective range for temperature telemetry extends to 500 yards. Signals with diminished quality can be received at greater distances and are useful for locating fish in the field.

The overall dimensions of 32 x 17 millimeters (for a two-cell battery excluding thermistor) makes the tag suitable for use in fish as small as one pound.

The received signal is easily decoded using commercially available gear by connecting the receiver output to a frequency counter to measure the period between pulses. Provisions are included for storing the pulse periods on punched paper tape for later conversion to temperature by a digital computer. Useful information can also be obtained simply by counting beeps with a stopwatch.

Others use tag

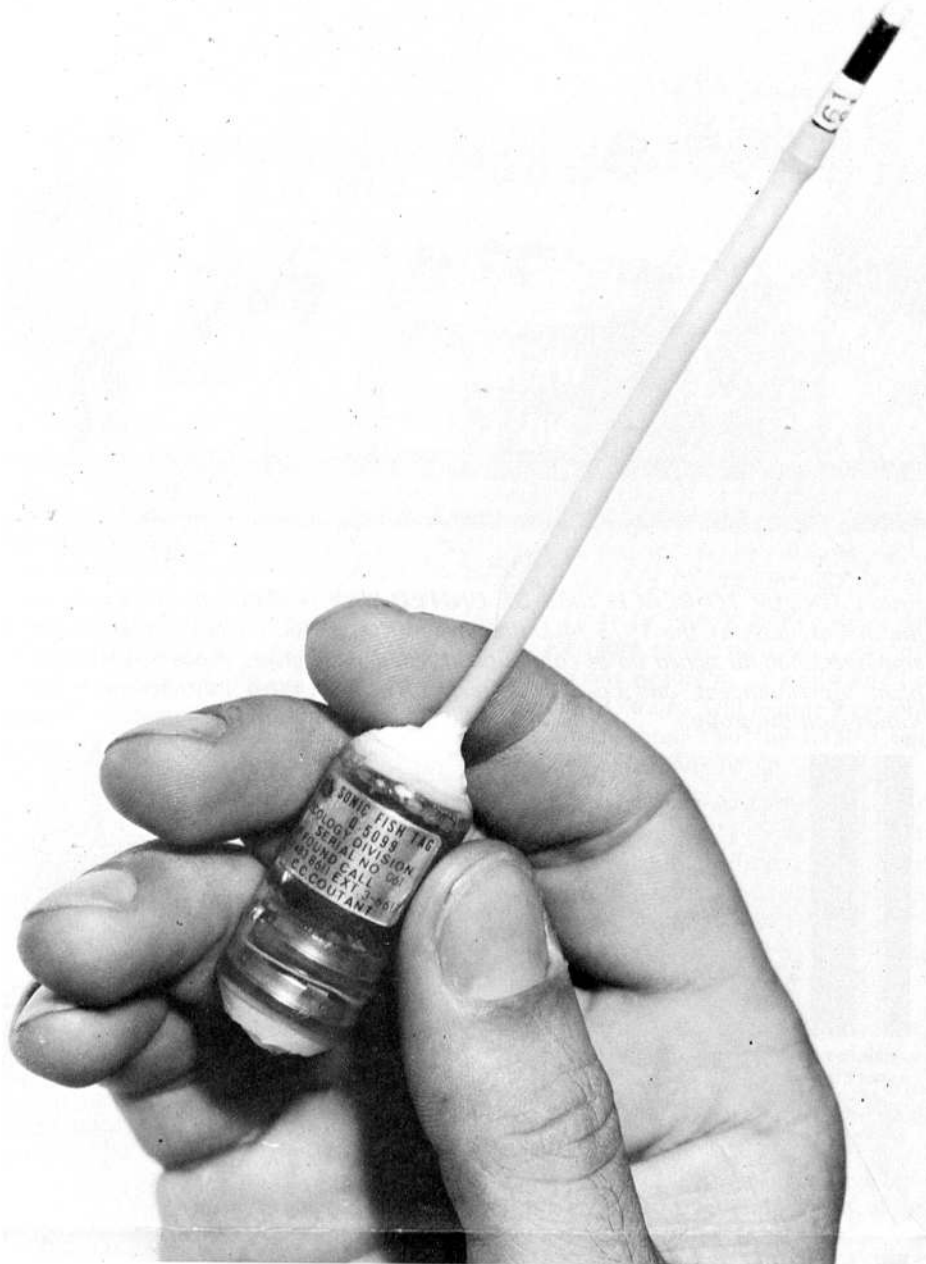
Temperature telemetry studies are currently being conducted at the Tennessee Valley Authority's Bull Run Steam Plant and in a small research lake on the AEC's Oak Ridge reservation.

The group at ORNL, in cooperation with the Savannah River Ecology Laboratory and the Department of Interior's Cooperative Fishery Unit at the University of Georgia, is using these tags to study the behavior of largemouth bass in two reservoirs receiving thermal effluents at the Savannah River Plant.

Others who have used the fish tags include the TVA at the Colbert (Ala.) Steam Plant, and Clemson University at the Oconee Nuclear Plant in South Carolina.

THE LAST WORD

The mind is a wonderful thing. It starts working the minute you are born and never stops until you stand up to speak in public.



ULTRASONIC FISH TAG — This highly sophisticated, temperature-sensitive fish tag was developed by environmental scientists at the Oak Ridge National Laboratory. The tag, which has a thermistor-type thermometer, can be surgically implanted with a transmitter to measure fish body temperature or left outside the fish to measure water temperature.

ALIVE AND WELL

There's one number the American Cancer Society just loves — 1,500,000. That's the number of Americans alive today who are cured of cancer. And, their ranks could be even greater, says the Society, if everyone understood the importance of an annual physical checkup including cancer tests.

Denny elected chairman of communications group

Three Nuclear Division employees were elected officers at the first meeting of the East Tennessee Chapter of the Society for Technical Communications held recently at the Oak Ridge Civic Center.

Elected were: chairman, Andrew Denny, Y-12; vice-chairman, Joe W. Deatherage, Jr., ORNL; secretary, Jane C. Kimbro, ORAU; and treasurer, Lola C. Byrd, ORGDP.

The STC is an organization dedicated to the advancement of the art of technical communications in all media. Its present membership consists of writers, editors, engineers, artists and administrative personnel. Persons interested in joining the organization should contact any of the officers or Myrleen Sheldon, ORNL, 3-7726, for additional information.

UNEXPECTED CONTRIBUTION

Doug N. Mashburn, United Way coordinator for ORGDP's Gaseous Diffusion Development Division, received an unexpected contribution. His five-year-old daughter, Jeremie, came up to him one evening and asked what United Way was all about. After Mashburn explained the campaign in terms Jeremie could understand, she left the room. She returned momentarily with her piggy bank which contained 74 cents.

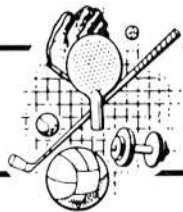


CERTIFIED — Newly licensed professional engineers in Oak Ridge include Thomas R. Barclay, Oak Ridge Associated Universities; and David B. Allen, Oak Ridge National Laboratory.



ORGDP ENGINEERS — Newly certified engineers (licensed professional engineers) at the Oak Ridge Gaseous Diffusion Plant include the above. Seated, from left, are Harold H. Hartman, Vernon J. Hockman, Jeffrey L. Lyons, George B. Lockhart, James Ronald Gray and Norman A. Pace. Standing are, John J. Blankenship, Elmer Slaughter, Russell A. Cooper, E. Howard Kelley, Donald R. Kellogg, Phillip A. Jallouk and Robert A. Williamson.

RECREATIONOTES



ANNUAL DINNER-DANCE

The annual ORGDP Christmas Dinner Dance has been set for December 15, at the Oak Ridge Civic Center. Ticket sales begin November 1. Details will appear in the next issue of ND News.

MISTLE TOE BALL

The Paducah Gaseous Diffusion Plant will hold its "Mistle Toe" Ball, December 28, at the Convention Center with music furnished by the Bill Black Combo. This Memphis-based group is making its third local appearance for the plant-sponsored holiday party for employees and their guests.

BASKETBALL, VOLLEYBALL TEAMS

Once again the Recreation Department is issuing a call for teams for basketball and volleyball. They will need the name of team, manager's name, building and phone number, and a list of the players.

Mail your entry to the Recreation Office, Building 9711-5, Stop 1, Y-12 Plant, or call 3-5833. The deadline for entry is November 9, 1973.

ORNL BOWLING

The Misfits lost one point recently, but still lead the A League remaining one point ahead of the second place Woodchoppers.

The Alley Rads maintained their lead in the C League with the Damagers moving up to second place. Virg Johnson and Dave Joy of the Damagers recently rolled 609 and 599 scratch series, respectively.

Leading the Ladies League are the Pickups, who are only one point ahead of the Strickettes.

PADUCAH GOLF TOURNAMENT

The rolling green fairways (and rough) of the Kentucky Lake Village Greens saw the concluding Paducah plant mixed scramble tournament of the season in a steady downpour that failed to dampen the enthusiasm of 72 Carbide men and women who battled the elements and each other in this annual tournament.

A sensational 3 under par 69 by the Gene Larson aggregation of Bob Simmons, Betty Brown and Joe Taylor, won it all when Betty Brown chipped in from



PRIZE WINNING BASS — Bill Leon, ORGDP's Separation Systems Division, recently participated in a bass tournament in Fontana, N.C., and returned home \$1,200 richer. Leon took \$1,000 first place prize for having the most total weight and \$200 for catching the largest bass of the tournament — a 5 pound, 8 ounce largemouth.

FISHING RODEOS

Winners in the Y-12 Plant "A" Shift fishing rodeo have been announced. Gift certificates were awarded to Jesse Farmer who took first place in the Largemouth Bass category, with second place being captured by G. E. Valentine. Third place went to D. G. Watson.

Winning the prize in the Smallmouth Bass category was L. N. Hendrickson.

E, F, G, H & J SHIFTS

Weighing in winners at the fishing rodeo held October 20 at Watts Bar were: Largemouth Bass: G. D. Watson, B. Murr and C. E. Boyd.

Smallmouth Bass: J. P. Grubb, J. Orr and B. Bunch.

Crappie: L. Walker, C. F. Butler and J. Parrett.

HAM SHOOT

The Y-12 Plant's "C" Shift is sponsoring a ham shoot for all Y-12 employees on Saturday, November 3 at the Oak Ridge Sportsman's Field. Fifty cents per shoot; free coffee.

10 feet off the green for a birdie on the monster of a 618-yard 18th hole. They were closely pursued by Sid Lester's team of Bernie Tilford, Pat Karr and Bill McGee with a 2 under par.



FIRST GROUP TO REACH 100% OF UNITED WAY GOAL — By 8:15 a.m. on the kickoff day, of the 1973-74 United Way drive, ORGDP's stores department employees had all signed up as continuous needed share givers. Robert A. Winkel, plant superintendent, and Edwin H. Kreig, ORGDP's United Way chairman, are shown with the group.



UNITED WAY EXHIBIT — Jo Acres, ORGDP, is shown with a United Way exhibit which was set up for an information exposition in Kingston recently. The exhibit was prepared by Doris Alford and Anne Thomas both members of the Roane County Board of Directors of United Fund. Mrs. Thomas, wife of ORGDP's Vaughn Thomas, was president of the Board last year.

Y-12 BOWLING

The Ridgers and Smelters are tied for first place in the Classic League, with the Has Beens trailing by only one point.

The Splinters still command the lead in the Mixed League, with the Friskies, Hits & Misses, Rollers and Alley Cats all tied for second place.

The C League finds the Sunflowers and the Purple Pygmies tied for first place. Three teams, the Big Five, Royal Flush and Mix Ups, are tied for second place, each being only one point behind the leaders.

THE LAST WORD

Some people have tact, and others tell the truth.

ORGDP BOWLING

The Wednesday League finds the Demons, Sandbaggers and Planners all tied for first place with 16 points each. Dave Phillippi captured the weekly prizes with a high game of 262, and 673 series.

The Payoffs took four points to go out in front of the Bowlettes and captured the lead in the ORGDP Women's League.

The Tuesday League's Double Xers remain in first place with a six point lead over second place Possibles.

Next Issue

The next issue will be dated November 15. The deadline is November 7.

APPLICATION FOR TICKETS

Requests **MUST** Be In By November 19

CARBIDE CHILDREN'S CHRISTMAS PARTY

(For Children Ages 2-9)

SATURDAY, DECEMBER 8, 9 A.M.

ARCADE THEATRE, PADUCAH, KY.

Employee's Name _____ Badge No. _____

Home Address _____

(Please Print Street Address or RFD, City and Zip Code)

Number of your children who will attend the party (please list):

(BOYS) NAME _____ Date of Birth _____ (GIRLS) NAME _____ Date of Birth _____

NAME _____ Date of Birth _____ NAME _____ Date of Birth _____

NAME _____ Date of Birth _____ NAME _____ Date of Birth _____

List names, ages and sex of children very accurately. The information will be used to bring present records up to date.

NOTE: Fill out form completely and return as soon as possible, but not later than November 19, to the Recreation Office, Union Carbide Corporation, P.O. Box 1410, Paducah, Ky. 42001. Tickets will be mailed to parents at their home addresses.



The Medicine Chest

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning their health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 20, or call the news editor in your plant, and give him your question on the telephone.)

By T. A. Lincoln, M.D.

QUESTION: "Is there very much research going on at the present on a cure for the common cold?"

ANSWER: Any disease which attacks adults an average of two to three times per year and accounts for about one-third of all illness absences from work, is not likely to be neglected by research investigators! Epidemiological studies on how colds are transmitted, what influences a person's susceptibility and how long one remains immune after a specific virus infection are in progress with several interesting reports having appeared in the past year. The virology of upper respiratory infections is now much better



understood, even though the realization that there are many different viruses which cause colds has caused some people to despair that a "cure" will ever be found. Too few people who work for UCCND realize that important research on respiratory disease viruses is being conducted at the ORNL Rockville, Md., Laboratory of the Molecular Anatomy Program under Dr. John Gerin. The search for antibiotics effective against cold viruses continues but progress is extremely slow.

Present antibiotics are not effective against viral infections because there are fundamental biologic differences between viruses and other infectious agents. Viruses depend completely on living cells in order to multiply. They cannot be grown on artificial media like bacteria. Drugs which suppress viral multiplication often damage cells and are therefore too toxic for human use. Unfortunately, drugs that seem to be highly active against viruses in tissue culture systems often don't work when applied to human infections. In spite of many years of effort, only two drugs, amantadine and idoxuridine, have been approved for clinical use by the Food and Drug Administration. Neither of these work against the common cold.

QUESTION: "Would you give a list of vital essentials for stocking a medicine chest for the bathroom?"

ANSWER: Before giving my list, I must give my assumptions. I assume that professional medical care is reasonably available and there is no need to provide more than first aid for serious injuries or illnesses and symptomatic relief for common minor complaints. Emergency rooms now staffed by fulltime physicians are available in most large and some modest sized hospitals.

1. Aspirin or acetaminophen, if allergic to aspirin.

2. A liquid non-absorbable antacid (usually an aluminum and magnesium hydroxide mixture).

3. Paragoric or Lomotil for acute simple diarrhea (will require a prescription). Kaolin, pectin, and attapulgite preparations which do not require a prescription are effective in mild diarrhea.

4. Three or four 1/2-grain codeine tablets for more severe pain, such as toothache, severe headache, or pain caused by a sprain or strain. (Will require a prescription which should not be refilled since codeine is a narcotic.)

5. Nasal decongestant-antihistamine mixture. (Many mild products are available over-the-counter. Potent ones require a prescription.) Suitable for hay fever as well as the common cold.

6. Nose drops or spray (neosynephrine).

7. Cough mixture. Syrups or tablets are available, usually containing glyceryl guaiacolate. None are particularly effective. Forcing fluids, rest and steam inhalations are more important.

8. Tongue blades and applicators. Don't be afraid to look at a sore throat. When you call your doctor you may be able to give him valuable information. A tongue blade can be used as a splint for a broken finger.

9. Bandages. Hypoallergenic adhesive tape, 1 inch roll. Sterile gauze pads in 1 x 1 inch, 2 x 2 inch and 3 x 3 inch sizes. A package of each should be sufficient. An elastic roller bandage (3 or 4 inches wide), for sprains and strains. A plastic splint to put over the tip of a mashed finger. Band-aids.

10. Antiseptic. Many are available, 70 percent alcohol is probably the cheapest and safest. Use soap and water to clean abrasions and lacerations. Never pour antiseptic into open wounds.

11. Anesthetic ointment for minor burns, including sunburn. Various ones are available. They may cause sensitization so use sparingly.

12. Rectal suppositories for painful hemorrhoids.

13. Anti-nausea medicine. Control of vomiting will require prescription medicine. Your physician may be willing to give one anti-nausea suppository to have on hand.

14. Laxative. Don't use! Exercise, fluids and high residue foods are all that is necessary. Give nature a chance. Maybe something mild like milk of magnesia could be kept on hand.

15. Hot pad and ice cap.

16. Counter-irritant ointment (liniment) containing methyl salicylate may be useful to rub into skin over sore muscles.

Keep the medicine cabinet cleaned out of old prescription or nonprescription drugs. A valuable guide to the selection and use of medicines available over-the-counter for safe self-medication is the book, *Without Prescription*, by E. DiCyan and L. Hessman, published by Simon and Schuster, New York, 1972.

Carbide sales for third quarter set new record

Union Carbide's sales in the third quarter amounted to \$1,041.7 million, and net income was \$73.4 million, or \$1.20 a share, it was announced recently by F. Perry Wilson, chairman of the board. Sales set a new record for any quarter, and were 27 percent above the \$817.3 million reported in the third quarter of 1972. Net income was a record for any third quarter, and was 59 percent higher than the \$46.2 million, or 76 cents a share, earned in the third quarter a year ago.

Wilson noted that net income in the third quarter was after a nonrecurring net loss after tax of \$16.1 million, or 27 cents a share. This was made up of \$21.1 million, or 35 cents a share, attributable to the write-off of certain facilities at Cubatao, Brazil, which had been announced earlier; and gains of \$5 million or 8 cents a share, resulting from the sale of certain product lines and property of Bakelite Xylonite Limited, a company manufacturing plastics in the United Kingdom.

Commenting on the results, Wilson pointed out that sales of Bakelite Xylonite Limited were included in Union Carbide's third-quarter 1973 sales figure as this company is now a wholly owned subsidiary. Prior to July 1973, the corporation owned only 50 percent of the stock of Bakelite Xylonite Limited and consequently its sales were not consolidated. Had they been consolidated in 1972, the sales increase in the current third quarter would be 23 percent. Consolidation of these sales had no material effect on net income, Wilson added.

For the first nine months, sales amounted to \$2,930.6 million, compared with \$2,387.0 million in 1972, an increase of 23 percent. Net income rose 43 percent to \$216.6 million, or \$3.56 a share, compared with \$151.2 million, or \$2.49 a share, in 1972.

Sales have been exceptionally strong, both in the United States and abroad, Wilson said. Domestic sales were up 18 percent over the third quarter of 1972. Although the largest percentage gains were in industrial products — including chemicals, plastics, gases, metals, and carbons — the corporation's consumer and related products also showed a very satisfactory sales increase. International third-quarter sales were strong virtually the world over, gaining 48 percent over the prior year.

AMATEUR RADIO COURSE

The Oak Ridge Amateur Radio Club is offering a free course in the code and theory of amateur radio operation.

The course, which will last for approximately eight weeks, will begin November 5, and will meet each Monday and Wednesday evening. The meetings on Monday nights will be held at 6:30 p.m. in the Craft Room of the Oak Ridge Civic Center. The Thursday night meetings will be held at 6:30 p.m. at the home of Bill O'Kain, 101 Baylor Drive.

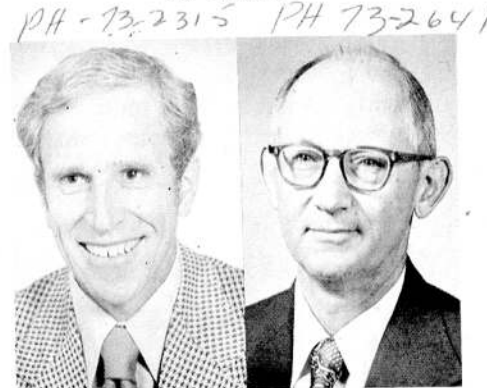
Many activities can evolve from becoming an amateur radio operator. Included are designing and building electronic equipment, communicating with people in far away lands and aiding in emergency situations.

If you would like further information, contact Charles Fisher, extension 3-4288 or Oak Ridge 482-3992.

COMPANY Service

20 25 30

ORGDP
30 YEARS



Levin

Orrison

Seymour A. Levin is head of long range planning in the Operations Analysis and Long Range Planning Division. Levin is a graduate of Johns Hopkins University and did graduate work at Columbia University and The University of Tennessee. He and his wife Patsy have four children. They live at 956 W. Outer Drive, Oak Ridge.

Robert G. Orrison of the Engineering Division has, over the years, worked at all three of the local plants. He is a native of Anniston, Ala., and has a degree in chemical engineering. He and his wife, Leta, have five children. The family lives at 526 Delaware, Oak Ridge.

ORGDP
25 YEARS

D. Steve Napolitan, Frank A. Heilman, Taylor G. Burke and Hoyt Robinette.

20 YEARS

George W. Long, James R. Browning and Louis T. Birdwell.

Y-12 PLANT
20 YEARS

Arthur C. Bailey, Gene A. Ware, Jack R. Taylor, Frank C. Stoetzel, Hubert G. Jenkins, Charles L. Myers, R. D. Haynes, William J. Lynch, Vernon Gamble, Edwin J. Holt, David M. Cleveland Jr., Paul E. Stein, Campbell R. Kelly, James D. Bowling Sr., Joe L. Hart, Lake M. Ledford, James W. Leinart, Kenneth B. McNabb and John V. Welch.

PADUCAH
30 YEARS



Rossmassler

William R. Rossmassler, a native of Byrn Mawr, Pa., joined Union Carbide at the SAM Laboratories in New York City. In 1943 he transferred to the Oak Ridge Gaseous Diffusion Plant, and joined the Paducah plant staff in 1951. He is a laboratory department supervisor and lives at Route 6, Paducah.

20 YEARS

Wilbur B. Akers Jr., and Ezell Moody.

Division Retirees

Four employees of the Y-12 Plant's Maintenance Division retired at the end of October marking almost 100 years of company service.

Thomas Kimbrough will retire to his native Rockwood, Tenn., home. He was in building services.



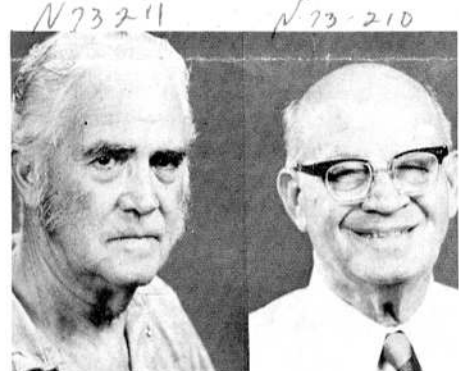
Kimbrough

N 73-212 N 73-213



Phillips

Spradlen



Mitts

Underwood

William E. Phillips, research services, lives at Route 1, Lenoir City. He is a native of Loudon County.

Buford R. Spradlen, also of research services, is a native of Powell, Tenn., and lives there now at 1200 Ponderosa Drive.

James W. Mitts, building, grounds and maintenance shops, is a native of Spring City, Tenn. He lives at Route 4, Harri-

man. Also retiring from Y-12 is Spencer B. Underwood of the Metal Preparation Division, with more than 20 years' service. He is a native of Knox County and lives at 2327 Fair Ave., Knoxville.

ORNL



Hoover

Rutherford

Herbert W. Hoover was a laboratory technician in the Metals and Ceramics Division. Originally from West Virginia, he had worked at ORNL for over 21 years. During the first six months of retirement, Hoover plans to "do nothing but sit in my rocking chair." He lives with his wife, Retha, at 173 California Avenue, Oak Ridge.

Carl B. Rutherford was a welder in the Plant and Equipment Division. His plans included spending the winter in Florida and attending the Orange Bowl game. He and Geneva, his wife, have two sons. Their home is at 2013 Nadine Street, Knoxville.



Tillery

Wallace N. Tillery, head of the photographic department at ORNL and Y-12, has retired with over 21 years of company service credit. Tillery's retirement plans included devoting full-time to his first love, "art." He and Frances, his wife, live at 107 Cahill Lane, Oak Ridge.



Dye

Granvel C. Dye, ORGDP's Operations Division, retired at the end of October. He has been with Union Carbide since 1944. Dye lives at 186 Johnson Road, Oak Ridge.

Planner-estimator post goes to ORGDP's Gerald Bellamy



Bellamy

Gerald Bellamy has been promoted to planner and estimator in the Maintenance Engineering Division at the Oak Ridge Gaseous Diffusion Plant.

Prior to joining ORGDP 22 years ago, he was an electrical contractor.

A native of New Market, Tenn., Bellamy completed a course at Coyne Electrical School, Chicago, and has attended The University of Tennessee.

His wife is the former Anna Mae Vaughn, and they have three children. The family lives at 4104 Fulton Road, Knoxville.

Bellamy lists as his hobbies photography, electronics, guns and hunting, and he also manages a girls' softball team.

Patents granted

To George I. Cathers and William E. Shockley, ORNL, for "Removal of Organic and Inorganic Iodine from a Gaseous Atmosphere."

To Wayne L. Maddox, Robert L. Coleman and Wilbur D. Shults II, ORNL, for "Loading Disk for Photometric Analyzer of Rotary Cuvette Type."

Calendar of EVENTS

TECHNICAL

November 5-7

Third Conference and Workshop on Embryonic and Fetal Antigens in Cancer. Hyatt Regency Hotel, Knoxville.

November 6

UT Department of Chemistry General Seminar: "Chemical Applications of Inner-Orbital Photoelectron Spectroscopy," Prof. John R. Van Wazer, Vanderbilt University. 414 Buehler Hall, UT Campus, 4 p.m.

November 7-9

Metals and Ceramics Division Annual Information Meeting: Oak Ridge National Laboratory.

November 8

Biology Division Seminar: "Primary Structures of Enzymes Involved in Tryptophan Biosynthesis in Bacteria," Shuei-lung Li, Stanford University. Large Conference Room, Building 9207, 3 p.m.

November 9-10

Conference on Interaction of Radiation with Noble Gases. Four Seasons Motor Lodge, Gatlinburg.

November 12-14

Biology Division Information Meeting: Oak Ridge National Laboratory.

COMMUNITY

November 3 & 10

Oak Ridge Playhouse presents: "Fiddler on the Roof." Playhouse, 8:20 p.m. Admission: Adults \$3; students \$1.50.

November 11

Kiwanis Club presents travel and adventure series: "Taiwan, Hong Kong, Singapore," by Eddie Chu. Oak Ridge High School Auditorium, 3 p.m.

November 11-29

Carbide Camera Club presents its Annual Photographic Salon at the Oak Ridge Community Art Center, Badger Road. Open to the public.

NUCLEAR DIVISION NEWS



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